

Patent

Attorney Docket No.: SAE 12553/127

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS : Ming Gao YAO et al.
SERIAL NO. : 10/763,727
FILED : January 23, 2004
FOR : PIEZOELECTRIC ACTUATOR WITH CONDUCTIVE
LAYER BETWEEN ACTUATOR FINGER AND
INSULATING LAYER
GROUP ART UNIT : 2627
EXAMINER : Craig A. RENNER

M/S: APPEAL BRIEF – PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

ATTENTION: Board of Patent Appeals and Interferences

REPLY BRIEF UNDER 37 C.F.R. § 1.193

Dear Sir:

This reply brief is in reply to issues raised by the Examiner in his Answer of September 10, 2007.

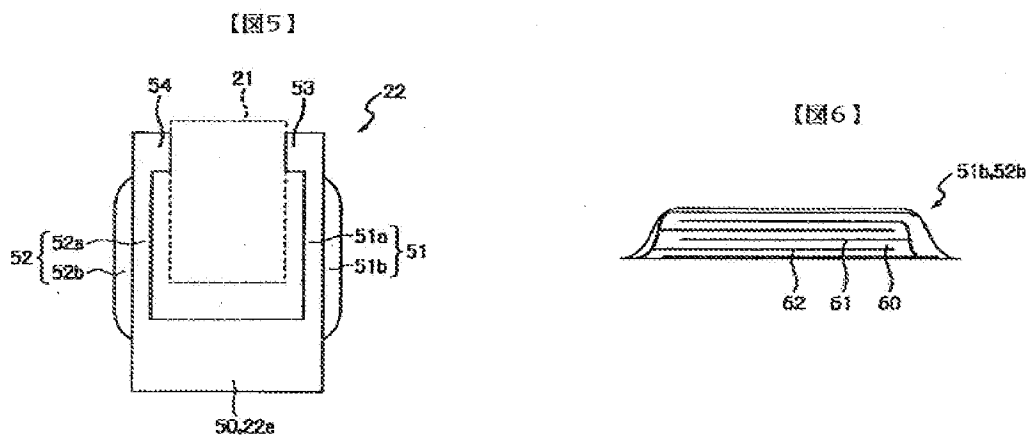
REMARKS/ARGUMENTS

Applicants respectfully submit the arguments in the Examiner's Answer are incorrect for at least the following reasons.

Applicants maintain the cited reference Shiraishi does not teach, suggest or describe at least an actuator component comprising at least one layer of electrically-conductive material and at least one layer of electrically-insulative material, and sandwiching said conductive layer between said insulative layer and an actuator finger (*e.g.*, as described in claim 10).

The Examiner asserts that Shiraishi teaches an electrically insulative material (citing element 60 above lower-most element 61), a conductive material (citing element 61) and an actuator finger (52a), citing Figure 6. It also asserts Shiraishi teaches sandwiching a conductive layer between the insulating layer and said actuator finger, citing Figures 5-6. *See* Examiner's Answer dated 9/10/2007, paragraph 10. Applicants disagree for at least the reasons described below.

Figures 5 and 6 of Shiraishi are reproduced below:



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Applicants submit Figure 6 illustrates layers 60, 61 and 62 cited by the Examiner as part of one element 51b, 52b, which is one component of the actuator structure shown in Figure 5. Element 52a (shown in Figure 5) is wholly separate from element 51b, 52b the structure in Figure 6, including cited elements 60 and 61.

Contrary to the Examiner's assertions in the Answer, the element 52b is not "mounted on element 52a". *See Answer, page 9.* Instead, component 51b, 52b is placed to the side of element 52a, such that elements 60 and 61 are located beside the element 51a. Since elements 60 and 61 are located on the side of element 51a, they are not located on top or bottom of element 52a. The Examiner's use of the phrase "mounting on" is contrary to the understanding of one of ordinary skill in the art. Element 51b, 52b is not mounted on element 52a.

The Examiner's use of the phrase "sandwich" is also contrary to the understanding of one of ordinary skill in the art. Element 60 and element 52a do not sandwich element 61. As argued previously, element 61 (the alleged conductive layer) is located in between two layers of element 60 (the alleged insulative layer), which is further located in between element 62 (a ground layer). Therefore, if anything, elements 60 and 62 sandwich element 61, not element 52a. For at least these reasons, the Shiraishi reference fails to teach or suggest the relevant limitations.

Regarding the Examiner's assertions relating to the embodiments of the present application, Appellants respectfully submit the Examiner is mistaken. For example, Figure 6b clearly shows an embodiment wherein alternating layers of conductive material 622 and insulating material 624 are applied to the micro-actuator 608 such that a conductive layer is sandwiched between the insulative layer and the actuator finger. For further support, please also

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see also paragraph [0015] of the specification. The Examiner's assertions are incorrect, and therefore cannot serve as the basis of a proper rejection of claim 10.

For at least the reasons described herein and in previous papers, Applicants maintain the Examiner current rejection is inadequate and should be withdrawn. Appellants therefore respectfully request that the Board of Patent Appeals and Interferences reverse the Examiner's decision rejecting claims 10-21 and direct the Examiner to pass the case to issue.

The Examiner is hereby authorized to charge any additional fees which may be necessary for consideration of this paper to Kenyon & Kenyon Deposit Account No. **11-0600**.

Respectfully submitted,

KENYON & KENYON LLP

Date: November 13, 2007

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